

CLAIMS

What is claimed is:

1. A method of changing the dynamic range of an original image to more closely
2 match the dynamic range of the medium used for a reproduction, comprising:
preserving small contrast differences between different areas of the
4 original image;
limiting the maximum contrast differences between different areas of
6 the original image.
2. The method of claim 1 where a look up table is used to preserve the small contrast
2 differences while limiting the maximum contrast differences in the original image.
3. The method of claim 1 where the maximum contrast difference in the original
2 image is limited to a ratio of 4-to-1 or less.
4. The method of claim 1 where the maximum contrast difference in the original
2 image is limited to a ratio of greater than 4-to-1.
5. The method of claim 1 where the small contrast differences are preserved with a
2 slope of one-to-one.
6. The method of claim 1 where the small contrast differences are enhanced by using
2 a slope greater than one-to-one.

7. The method of claim 5 where the one-to-one slope passes through the origin.
8. The method of claim 1 where the small contrast differences are reduced by using a
2 slope smaller than one-to-one.
9. A method of improving an apparatus that sequentially determines a comparative
2 measure of the radiance information for providing a new intermediate value of
each such measure in response to the product of a ratio function of the radiance
4 information associated with each of a first named segmental area and with each of
a second named segmental area and of a like measure previously determined for
6 the second named segmental area, and determining a sequentially new value of
each said measure in response to a selectively weighted averaging of the new
8 intermediate value and a like measure previously determined for the first named
segmental area, comprising:
10 preserving the small contrast differences of the ratio function;
 limiting the maximum contrast differences of the ratio function.
10. The method of claim 9 where a look up table is used to preserve the small contrast
2 differences while limiting the maximum contrast differences in the original image.
11. The method of claim 9 where the maximum contrast difference in the original
2 image is limited to a ratio of 4-to-1 or less.
12. The method of claim 9 where the maximum contrast difference in the original
2 image is limited to a ratio of greater than 4-to-1.

13. The method of claim 9 where the small contrast differences are preserved with a
2 slope of one-to-one.

14. The method of claim 9 where the small contrast differences are enhanced using a
2 slope greater than one-to-one.

15. The method of claim 13 where the one-to-one slope passes through the origin.

16. The method of claim 9 where the small contrast differences are reduced using a
2 slope smaller than one-to-one.